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Carlo Antonio Rossi

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PEARNE & GORDON LLP  
1801 EAST 9TH STREET  
SUITE 1200  
CLEVELAND, OH 44114-3108

EXAMINER

SAVANI, AVINASH A

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/597,348	<b>Applicant(s)</b> ROSSI ET AL.	
	<b>Examiner</b> AVINASH SAVANI	<b>Art Unit</b> 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-72 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-72 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/21/2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 7, 12, 16-12, 36, and 46-53 are rejected under 35 U.S.C. 102(b) as being anticipated by Dane [6655954].

3. With respect to claims 1-3 and 36, Dane discloses: A gas burner including: a distributor means (9) having at least one distribution chamber (8) to distribute an air gas mixture around said distributor, said burner including a plurality of flame ports (11) through which said gas mixture can pass and be ignited; at least one injector (5) associated with said distributor means, said at least one injector being positioned to inject gas into said at least one distribution chamber via a venturi (3) formed of a vertically directed passage and transition port (31) and at least one venturi (6) extension extending away from said transition port [see FIG 1]. Wherein according to claims 2, 3 and 36, the venture extend in opposite directions, the distributor is generally cylindrical, and the at least one venturi extension is oriented so as to be generally horizontal [see FIG 1].

4. With respect to claims 4, 5 and 7, Dane discloses: A burner as claimed in claim 1 wherein said distributor means has at least two, or preferably three, equi-spaced inwardly extending arms (18), and a burner as claimed in claim 1 wherein said

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distributor means includes at least one radially outwardly extending arm (17) [see FIG 1]. According to figure 1, it is seen that the distributor means has an aperture having a clover leaf configuration.

5. With respect to claim 12, Dane discloses: A burner as claimed in claim 1 wherein there are two venturi (6) extensions which form an arcuate or circumferential shape [see FIG 1]. As can be seen in figure 1, each extension (17) has a portion (6) that extends to form an arcuate shape.

6. With respect to claims 16-19, Dane discloses: A burner as claimed in claim 1, wherein said at least one venturi extension (6) is formed in a cap (7) which is positioned on top of said distributor means wherein said burner includes a cap (7) which is positioned on top of said distributor means (9), wherein said flame ports (11) are formed in one or more walls of said distributor means [see FIG 2]. It is clearly seen from the figure that the wall of the distributor means has flame ports, wherein a cap sits on top of the distributor means. According to the figure 4 of the applicant, the flame ports extend into the cap, as can be seen in figure 2 of Dane. The flame port (11) extends into the cap (7), therefore it is understood that the flame ports are formed in the cap.

7. With respect to claims 20-22, Dane discloses: A burner as claimed in claim 1, wherein said at least one venturi extension (6) has a occluding structure (30) for directing said air gas mixture to the flame port (11) from the transition port (31) [col 4, line 47-56]. It is seen from figures 1 and 3 that the occluding structure forms a wall extending away from the venturi, and the distributor means has an air entry port (2).

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8. With respect to claim 46-49, 51, 52, Dane discloses: A gas burner as claimed in claim 1, wherein said burner includes a cap (7), wherein it is seen the distributor means (9) includes a multiplicity of flame ports (11), wherein it is seen that the flame ports, according to figure 4 of the applicant, are formed in a wall of the distributor wherein the flame ports extend up to the cap, as can be similarly seen in figure 2 of Dane. With respect to claim 49, wherein the chamber (8) includes a venturi extension (6) the defines a peripheral channel that delivers an air gas mixture to the flame ports [see FIG 1, col 3, line 55-59]. With respect to claims 51 and 52, it is seen that the venturi has a vertical passage that opens to a horizontal venturi extension which extends away from the vertical passage (3), and is therefore seen to be formed in the distributor means.

9. Claims 37-41 rejected under 35 U.S.C. 102(b) as being anticipated by Halsey et al [6663025].

10. With respect to claims 37-41, Halsey discloses a manifold for a gas burner [see FIG 2]. The manifold is in the arrangement as claimed, specifically there is seen a lower (411) wall and an upper wall (406) separated by an outer peripheral wall, wherein there is a convex shape [col 6, line 4-7] to provide a cup means so that if spilling occurs, the spillage will drip to the center. There is also a means to mount atleast one injector (302). The outer surface of the upper wall is also seen to be concave, which allows for a larger distribution region. The injector (302) is considered to be housed in a port (410). The burner is connected to a gas supply, wherein the connection is by means of the port, which is understood to pressurize the cavity. The walls are seen to be made of a thin construction.

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11. Claims 42-45 and 54-59 are rejected under 35 U.S.C. 102(b) as being anticipated by Huang [5842849].

12. With respect to claims 42-45, Huang discloses a gas burner comprising at least one distributor means having two discrete distribution chambers (30) therein, each chamber having communication with flame ports (32) and including a venture (17) to supply an air gas mixture thereto [col 2, line 16-19]; said burner having only one manifold (10) to conduct gas to respective injectors for each venturi from a single gas supply connection to said manifold [see FIG 3], each of said chambers having a radially extending portion, which extends inwardly towards the centre of said burner, whereby between the ends of respective radially extending portions there is provided an unobstructed space [see FIG 2]. From the figures, it is seen that there are parallel sides that are radial, two oppositely extending circumferential arcuate portions, wherein the chambers extend outwardly.

13. With respect to claims 54-59. Schlosser et al discloses: A gas burner [see FIG 4] including a distributor (30) having flame ports (32) in a wall portion of said distributor and or in a cap which will cooperate with said distributor [see FIG 4], said distributor also including at least two venturis (17) with each venturi having a respective injector (15) associated therewith located internally of and near to a wall portion of said distributor [see FIG 2], said distributor including at least two generally elongated air inlet ports (172) which are located in said wall, said ports having a longitudinal axis which extends circumferentially around said distributor, said ports including at their extremities a reduced cross sectional area when compared to the central portions of said port [see

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FIG 4]. As can be seen from the figures, with respect to claim 55, radially inwardly flowing air from would not interact with the injector, since the injector is located between opposing ends of the inlet ports. It is understood that a secondary stream of air passes through the air inlet port due to the arrangement similarly claimed in 56. The air is provided at a generally circumferential direction, as it is seen that the ports direct the flow in the direction, and the air inlet ports are seen to demonstrate an eye shaped configuration. The air inlet ports also provide an opening which increases in height then decreases [see FIG 6].

14. Claims 60-68 rejected under 35 U.S.C. 102(b) as being anticipated by Dane [FR 2770620].

15. With respect to claims 60-68, Dane discloses: A gas burner (1) including a distributor means (43) having at least one chamber (51) to distribute an air gas mixture around said distributor means, said burner including a plurality of flame ports (41) through which said gas mixture can pass and be ignited; at least one injector ( ) associated with said distributor means, said at least one injector being positioned to inject gas into said at least one chamber via a respective vertically directed converging passage terminating with an transition port which has communication with said chamber [see FIG 2], a venture (33) being formed in part by said converging passage and said transition port with a final part of said venturi being formed by at least one venturi extension which acts upon a generally horizontal flow (29) of said air gas mixture flowing from said transition port, said transition port having at or near its rim two or more occluding structures (39) associated therewith for directing and or baffling said air gas

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mixture in its flow from said transition port to said flame ports [ see FIGs 1-3, page 5, line 29, page 6, line 7]. Referring to claims 61-68 and the figures of Dane, it is seen that Dane discloses the occluding structure (39) which comprise a wall formation [see FIG 2], wherein they have a castellated appearance, they are formed in the cap, and the flame ports are distributed in the cap, the venturis extend away from the transition port, and the venturis are located near the occluding structure (39), the venturis are formed on the distributor means, and they taper toward the extremities.

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 6, 8-11, 23-31, 35 and 69-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dane [6655954], further in view of Huang ['849].

18. With respect to claims 6, and 8-11, Dane discloses a burner according to claim 1, however does disclose the air gas mixture flowing to the centre of the distributor via the flame ports or wherein each segment of the distributor means has its own chamber and injector. Huang teaches a similar device wherein the flame ports (32) direct the air gas mixture to the centre of the distributor, and each segment of the distributor has its own chamber (30) and injector (17) [see FIG 2, col 2, line 50-54], wherein it follows logically that since there are flame ports directed to the centre of the distributor, the flow of the air gas mixture would flow this way. Also according to the figures, Huang shows the



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limitation of claim 10 wherein the distributor means is segmented by means of gas flow from the injector, as this logically follows from the arrangement. In view of Huang, each chamber has its own injector. It would have been obvious to a person of ordinary skill in the art at the time of the invention to have the distributor means comprising segments with their own chamber and injector because the design was known to distribute the flames in a more uniform fashion, thereby evenly heating the contents of are to be heated by the burner. According to figure 1, Dane shows that the distributor means (9) is segmented by segment walls between respective segments, and with respect to claims 11, the segments cross shape with an arcuate cross bar, and the venturi extensions (6) from the arcuate circumferential shape.

19. With respect to claim 23-25, Dane discloses an air entry port (22) for the injector (5), however, this port is continuous circumferentially. Since a supple amount of air is provided, it is believed that providing plurality of air entry ports is a design consideration, and one of ordinary skill in the art at the time of the invention would have the knowledge and design know-how to provide a multiplicity of air entry ports in the wall specifically as claimed in claims 23-25. It is believed to be of design choice since no particular advantage is given.

20. With respect to claims 26 and 27, Dane discloses the burner as claimed in claim 22, however Huang teaches the burner with an air entry port in the wall of the injector, which is understood to be part of the distributor means, and a wall shields the injector. In view of Huang, the injector is shielded in order to prevent air passing though the air entry port and disturbing the operation of the injector. It would have been obvious to a

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person of ordinary skill in the art at the time of the invention to provide a shielding means because this was known to prevent disturbance in the injector. As can be seen in figure 2, the injector (7) has an air entry hole (172) wherein the hole is shielded by the distributor top wall (20), thereby demonstrating a means to minimize disturbance to the injector.

21. With respect to claims 28-31, Dane discloses a burner with arms, and the air entry region (2) surround the entire periphery of the burner perimeter, thereby showing that there are air entry ports between each arm segment, wherein it is also seen that the burner has the arms inclining with respect to an imaginary horizontal line toward the centre as can be seen in figure 3, and it is seen that the flame ports (11) is seen to be at an acute angle to the radial direction of the extension of each arm [see FIG 1], and although a trivet is not disclosed by Dane or Huang, official notice is taken is it is common practice that a burner be accompanied by a trivet so as to support cooking utensils on to be heated [see FIG 2 of Halsey et al]. As discussed above, there are not multiple injectors as claimed in claim 28, however, Huang teaches a similar burner with multiple injectors (17). In view of Huang, there are multiple injectors for each segment. It would have been obvious to a person of ordinary skill in the art at the time of the invention to have multiple injectors because the option to do so was known, yielding the predictable result of having a more uniform distribution of fuel.

22. With respect to claim 35, Dane discloses the burner as claimed in claim 1, however does not disclose the flame ports on an internal and external periphery of the distributor. Huang teaches a similar burner wherein the distributor (30) has ports (32)

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that are aligned on the entire outer periphery of each segment, therefore showing the distributor means having an internal and external perimeter, with inwardly and outwardly directed ports [see FIG 6]. In view of Huang, the ports distribute an air gas mixture to the interior and exterior of the burner. It would have been obvious to a person of ordinary skill in the art at the time of the invention because the arrangement was known, yielding the predictable result of distributing an air gas mixture of a larger area thereby when igniting the fuel will allow for a more uniform flame distribution.

23. With respect to claims 69-72, Dane discloses a burner in claim 8 wherein the distributor means is segmented wherein the segments are covered by a cap (7), however each of the segments are not discrete, interconnected segments. Huang teaches a similar burner device wherein the distributor is considered to be elements (20) in association with each segment (30) wherein it is seen that the segments (30) are interlocked with element (20) [see FIG 2], wherein element (20) is understood to be the circumferential fixing means that hold the segments (30) together to form an assembly. In view of Huang, the segments are individually connected to form a distributor. It would have been obvious to a person of ordinary skill in the art at the time of the invention to have such an interlocking arrangement, because the technique to assemble the distributor was known to provide a joining means, however it is believed that the joining of the segments via an interlocking connection, or forming the distributor as one piece would provide the same functionality, and is therefore deemed to be of a design matter and not of criticality, since it is given that the distributor can be formed by either means.

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24. Claims 13-15, 50 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dane ['954].

25. With respect to claims 13-15, Dane discloses a burner wherein the venturi extension is formed as part of the distributor means, however, the wherein the four extensions (17) are believed to have there own venturi extension that form an arcuate shape, however it is not seen that there a cross shape. The shape of Dane however can be seen to cover the same area as the T-shape of the applicant. Since the same area is covered with regard to the different shapes, it is believed that the T-shape is a design choice, and a person of ordinary skill in the art at the time of the invention would have found it obvious to use a T-shape, or any other shape as long as the same area is covered.

26. With respect to claim 50 and 53, Dane discloses a gas burner as claimed in claim 46, however the venturi extension is formed underneath the cap that defines a peripheral channel to deliver air gas mixture to flame ports. It is believed that the venturi extension will have the same advantage of delivering the air gas mixture whether in the distributor or underside of the cap. It would have been obvious to a person of ordinary skill to locate the venturi extension in the cap, since the cap covers the distributor and is adjacent thereto. It is therefore seen that the arrangement is of design and not criticality since the advantage is known to be equivalent in either arrangement.

27. Claims 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dane ['954], further in view of Halsey et al ['025].

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28. With respect to claims 32-34, Dane discloses the burner as claimed in claim 1, however Halsey et al teaches a similar device wherein the distributor is mounted on a manifold that has a gas inlet (412) [see FIG 4A], wherein the gas inlet communicates with a cavity (410) in the manifold wherein the injector (302) is seen to be apart of the cavity, and with respect to claims 33 and 34, the manifold is convex toward the centre, wherein it is seen that the outer periphery has a greater height than the inner, and any spills would be directed toward the centre. In view of Halsey et al, the distributor sits atop of the manifold wherein the manifold is convex. It would have been obvious to a person of ordinary skill in the art at the time of the invention to have a manifold that is convex because the design was known to allow spills to be directed toward the center of the burner body, yielding the predictable result of having a collecting means for any spills so flame ports will not be obstructed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AVINASH SAVANI whose telephone number is (571)270-3762. The examiner can normally be reached on Monday- Friday, alternate Fridays off, 7:30-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven McAllister can be reached on 571-272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Avinash Savani/  
Examiner, Art Unit 3749

/Steven B. McAllister/  
Supervisory Patent Examiner, Art Unit 3749

/A. S./  
9/30/2008